

Integrated electric drive EMCA

FESTO



Uncompromising rotation!

Highlights

Complete solution

- One piece of hardware
- Motor + drive system

On-site installation

- Protection to IP65

Communication

- Profinet
- Ethernet/IP
- EtherCAT
- Modbus TCP
- CANopen
- I/O-Interface

Configuration and parameterisation

- Quick, easy and convenient
- 64 freely programmable positioning records

The EMCA is the perfect complete solution for positioning drives or for format changes. The integrated drive comprises a maintenance- and wear-free EC motor as well as power electronics and open- and closed-loop control electronics. It can be installed directly in the system thanks to the optional high protection to IP65 for the housing and connection technology. This avoids long motor cables, improves electromagnetic compatibility and reduces the installation workload and space requirements.

Matching actuation

Actuation is via the popular Profinet, Ethernet/IP, EtherCAT, Modbus TCP, CANopen or directly via an I/O interface.

Quick operation

Thanks to the reduced installation workload and quick and easy parameterisation and commissioning using the Festo Configuration Tool (FCT) software, it is immediately available for operation.

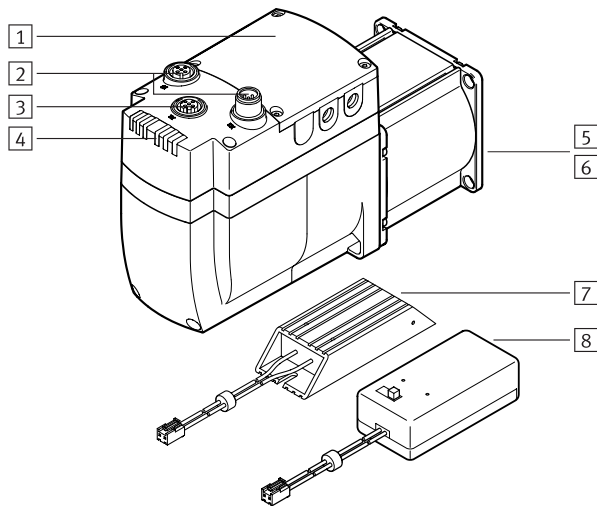
Precise position sensing

The EMCA senses the position absolutely, either with a single-turn or optional multi-turn encoder for up to 4 billion revolutions.

Safety built in

The safety of the EMCA is ensured by the monitoring functions for safety and system availability such as “Safe Torque Off” (STO) and the integrated holding brake plus actuation. It is approved for PL d and SIL2.

Integrated electric drive EMCA



- 1 Connection housing (for 7 and 8)
- 2 Actuation interface, e.g. CANopen
- 3 Parameterisation interface
- 4 LED (status) displays
- 5 Motor shaft and motor flange
- 6 Gear unit (optional)
- 7 Braking resistor (optional)
- 8 Battery box (optional)

Braking resistor - relevant for positioning applications with e.g. toothed belt axis or for vertical applications

- Brake chopper is integrated as standard
- Optional external braking resistor
- Support for calculating/sizing the braking resistor with the PositioningDrives software:
 - Braking resistor: yes/no
 - Also for combination with linear mechanical systems from third-party suppliers after entering mechanical coefficients

Position sensing via absolute encoder

- Standard: single-turn
 - Resolution up to 12 bits
- Optional: multi-turn
 - Resolution up to 32 bits (> 4 billion revolutions)
 - With integrated buffer for saving the position values
 - Storage for up to 7 days
 - Storage for up to 6 months when using the optional battery box

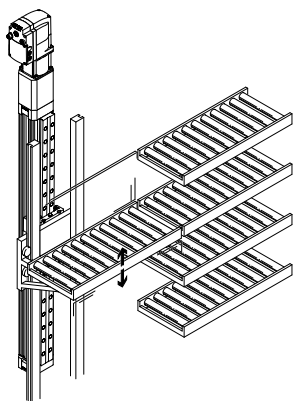
Possible applications expertly handled by the EMCA

Format changes in

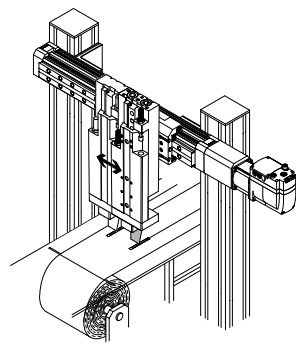
- Paper processing
- Woodworking industry
- Packaging industry
- Assembly technology

Special applications

- Roller adjustment
- Workpiece alignment
- Tool setting
- Positioning tasks in automatic coiling machines



Adjusting sorting conveyors



Format changes for paper or film cutting machines

Technical data (excerpt)

- Nominal voltage: 24 V DC
- Max. rotational speed: 3,500 rpm
- Nominal/peak torque: 0.45/0.91 Nm
- Nominal/peak power of motor: 150/200 W

Safety

- Safe Torque Off (STO) safety function to EN 61800-5-2
- Performance Level (PL) to EN ISO 13849-1: category 3, Performance Level d
- Safety Integrity Level (SIL) to EN 61800-5-2: SIL 2